A Guide to Updating to 2021 R2

SYSPRO 8

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SYSPRO™

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Quick Guide: Updating to SYSPRO 8 2021 R2

Quick Guide: Updating to SYSPRO 8 2021 R2

This article covers important points to note when updating to *SYSPRO 8 2021 R2*, as well as a few tips and tricks to make the process easier.

The areas covered include:

- Update process to SYSPRO 8 2021 R2
- Customization settings stored in SQL
- Database Optimization Key Scalability
- Enhanced SYSPRO Reporting Software
- SYSPRO Installer Application enhancements
- SYSPRO OData
- Centralized System Administration
- SYSPRO Web UI (Avanti) Diagnostics
- Document printing using third party application
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Update Process

1 Run the **SYSPRO Installer Application** on the SYSPRO application server.

2 Once connected to the **SYSPRO Deployment Service**, enter your **InfoZone** login credentials. If you're a Partner or Super-user, indicate the customer code on whose behalf you are doing the install.

Ensure that you use the correct credentials as subsequent notifications rely on this information.

3 From the home screen select the **SYSPRO ERP Software** option.

4 Identify the deployment group you want to update and select the **Update** button.

This creates a text file (`SYSPRO_Deployment_Release_Update.txt`) in the **SYSPRO Deployment Downloads** folder, providing details about the machines belonging to the group, as well as the software installed on each of those machines. Software updates must be applied to all machines in a group to complete the process otherwise the deployment group remains listed as *Update in progress*.

5 Select *SYSPRO 8 2021 R2* as the release to update.

The update process pauses if the system detects that **SAP Crystal Reports 2013** is installed, or if the version cannot be determined.

From *SYSPRO 8 2020 R2*, server-side reporting requires **SAP Crystal Reports 2016**. When you select to proceed, you are routed to the **SYSPRO Reporting Software** screen from where you can first uninstall **SAP Crystal Reports 2013** and then install **SAP Crystal Reports 2016**. Otherwise you are returned to the **Deployment Groups** screen.

6 From the **Product Updates available for Release** screen, select the products you want to update for the new release, followed by the **Continue** option.

7 After accepting the license terms and conditions, a summary of all products to be installed is displayed for you to review.

8 Select **Begin Install** to proceed with the installation of all selected products.

9 Update any additional servers in your deployment group that require an update (listed as *update in progress*).

10 Log in to *SYSPRO 8* as an Administrator. A minor database update is performed to your system-wide tables and to each company-specific table.

You are now ready to start using *SYSPRO 8 2021 R2*.

Customization settings stored in SQL

> These changes apply when running in **SYSPRO 8 on-premise**, **SYSPRO Web UI (Avanti)** and **SYSPRO Cloud ERP** environments.

Role customization across any machine

To provide operators within defined roles with the same customization experience across any machine (and in the event of a pod loss in a **SYSPRO Cloud ERP** environment) the following role customizations are now retained in SQL within the system-wide database:

- Role customization files (e.g. `\Settings\Role_xxx`, stored in the SysRoles table)

- Role menu files (stored in the SysMenu table)

When operators within a defined role log into SYSPRO, the system checks the SysRoles and SysMenu tables for any customized role settings or menus defined and returns these if found. If these settings are not found during the start-up process, the system checks the file system (`\Base\Settings`) and, if found, copies these to the respective SQL database tables and returns the saved settings to the SYSPRO instance.

Advantages of having this data available from the database include:

- Centralized access to all related data

- Simplified portability of data and backup strategy

- Improved performance

- Provision for enhanced scalability in future releases

Considerations

- Storing these settings in SQL is *not* dependent on the **PERSIST OPERATOR UI SETTINGS TO SQL** system-wide setup option being enabled (*Setup Options > System Setup > System-Wide Personalization*).

- Although role customization settings are retained within the `\Base\Settings` folder of the file system, these files are updated from the SQL database whenever changes are made to the role customization settings in SYSPRO, followed by a graceful exit of SYSPRO.

Operator customization across any machine

To provide operators with the same customization experience across any machine (and in the event of a pod loss in a *SYSPRO Cloud ERP* environment) the following customization settings per operator are now retained in SQL within the SysSettings table of the system-wide database:

- System-wide personalization settings
- Recent Programs
- Favorites
- Other SYSPRO menu personalization

When an operator logs into SYSPRO and the **PERSIST OPERATOR UI SETTINGS TO SQL** option is enabled, the system checks the SQL system database for any customized operator settings defined and returns these if found. If these settings are not found during the start-up process, the system checks the file system (`\Base\Settings`) and, if found, copies these to the SysSettings table and returns the settings to the SYSPRO instance.

Advantages of storing this data in the database include:

- Centralized access to all related data
- Simplified portability of data and backup strategy
- Improved performance
- Provision for enhanced scalability in future releases

Considerations

- Storing these settings in SQL *is* dependent on the **PERSIST OPERATOR UI SETTINGS TO SQL** system-wide setup option being enabled (*Setup Options > System Setup > System-Wide Personalization*).
- Although the operator's personalized settings are still retained within the `\Base\Settings` folder of the file system, this file is updated from the SQL database whenever an operator makes changes to their operator settings in the **Setup Options** program and exits SYSPRO gracefully.

Operator settings now retained in SQL

- Recent Programs
- Favorites
- SYSPRO menu personalization
- System-wide personalization settings (*Setup Options > System Setup > System-Wide Personalization*):

  Forms:

- ■ ▫ Address formatting
  - ▫ Override font
  - ▫ Font
  - ▫ Show captions in bold
  - ▫ Show icons for custom fields
  - ▫ Default numeric alignment
  - ▫ Always apply numeric alignment
  - ▫ Show description of keys in caption
  - ▫ Highlight editable form fields
  - ▫ Highlight color
  - ▫ Map URL to use for directions
  - ▫ Map URL
  - ▫ Google API key
  - ▫ Use short names when resolving addresses

Workspace:

- ▫ Use Predictive Search
- ▫ Show toolbar navigation buttons
- ▫ Enable Task Dialog customization
- ▫ Enable Toast Notifications
- ▫ Toast Notifications delay
- ▫ Close Toast Notification when typing
- ▫ Web Browser emulates highest IE version
- ▫ Save primary window settings upon exit
- ▫ Validate G/L sections as you type
- ▫ Display G/L sections as drop-down list
- ▫ Launch help from status bar
- ▫ Show system-wide view when logging in
- ▫ Show role view when logging in
- ▫ Enable roaming users
- ▫ Enable advanced browse

Database Optimization: GL and Inventory control records

Inventory and General Ledger control records within the SYSPRO database architecture have been redesigned for greater scalability to allow the independent management of individual key numbers (e.g. registers, journals, etc.). This addresses the need to cater for the locking and, by extension, queuing of processes of the current control tables while a process retrieves and uses the next keys held in these tables.

Benefits

- Greater scalability for high-volume sites
- Less excessive blocks and bottlenecks in high transaction environments

Control records (which have been a core part of the SYSPRO architecture for many years) are used to store certain values that are updated continuously by multiple transactions (e.g. Financial next journal and register numbers, Lowest unprocessed journal numbers, MTD and YTD values per module, etc.). In high-volume environments (with high user activity or high automated transactions) these control records are read and updated constantly and can potentially cause record locks and result in SQL deadlocks and rollbacks.

From **SYSPRO 8 2021 R2**, the next key and next journal columns have been removed from the GenControl and InvCompanyCtl control files and redefined as individual rows in a new set of tables that are defined by module:

- GL register numbers: GenNextKeys
- Inventory journal numbers: InvNextKeys

The next numbers are now allocated in a self-contained SQL transaction by the **COM FETCH NEXT KEY AND UPDATE AUDIT**[1] business object and an audit record is created to track when this number was allocated. The transactional data is then created in a separate SQL transaction and used to update the audit record to indicate that the transaction has been completed.

This prevents record locks by ensuring that the InvCompanyCtl and GenControl records aren't accessed or locked as frequently.

To assist with auditing purposes, the InvNextKeyAudit and GenNextKeyAudit tables can be used for the following:

- Trace the next numbers allocated (where no transaction was created).
- Explain missing transaction numbers in the transactional tables.

In addition, the `Lowest Unprocessed Journal` numbers (used for locating unprinted journals and unposted GL integration records) have been removed from these control records (they were originally introduced to speed up the processing time in C-ISAM environments and have

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[1]Business object: COMNXK

little value in SQL). Using the capabilities in SQL enables SYSPRO to locate unprinted journals and unposted GL integration records quickly and easily.

Obsolete database columns from SYSPRO 8 2021 R2

The following columns are now obsolete as the data has been moved into the module specific tables:

Table Name	Column Name	Description
GenControl	CurYrNxtEntGrp	Next entries group number current year
GenControl	CurYrNxtJnl	Next journal number current year
GenControl	NxtYr1NxtEntGrp	Next entries group number next year 1 (unused)
GenControl	NxtYr1NxtJnl	Next Journal number next year 1 (unused)
GenControl	NextAnalysisEntry	Next Analysis Entry
GenControl	NxtYrNxtEntGrp	Next entries group for next year
GenControl	NxtYrNxtJnl	Next journal for next year
GenControl	PrvYrNxtEntGrp	Next entries group previous year
GenControl	PrvYrNxtJnl	Next journal previous year
InvCompanyCtl	NextInvJnl	Next journal
InvCompanyCtl	NextInvJnlPyr	Next journal previous year

The following lowest unprocessed entries are now obsolete as they are no longer required:

Table Name	Column Name
GenControl	UnpYear
GenControl	UnpPer
GenControl	UnpJnl
InvCompanyCtl	UnpJnlYear
InvCompanyCtl	UnpJnlMonth
InvCompanyCtl	UnpJournal
InvCompanyCtl	UnpInvYear
InvCompanyCtl	UnpInvPeriod
InvCompanyCtl	UnpGrnYear
InvCompanyCtl	UnpGrnPeriod
InvCompanyCtl	UnpInvJnlUpdYear
InvCompanyCtl	UnpInvJnlUpdMonth
InvCompanyCtl	UnpInvJnlUpd
InvCompanyCtl	UnpInvDisUpdYear
InvCompanyCtl	UnpInvDisUpdPeriod
InvCompanyCtl	UnpGrnDisUpdYear
InvCompanyCtl	UnpGrnDisUpdPeriod

Enhanced SYSPRO Reporting Software

The *SYSPRO Reporting Services* architecture for printing and reporting (both client-side and server-side) has been upgraded to use **SAP Crystal Reports 2020**.

The advantages of this upgrade include:

- Faster installation time (depending on the hardware and software configuration).

- Reduced footprint on the reporting server installation (**SAP Crystal Reports Server 2020 SP2** is 64-bit).

- Faster start-up time for the Java server when using client-side reporting.

- Improved performance when previewing, printing and archiving documents (depending on the environment and hardware configuration).

  > **i** Our internal testing has indicated an average of 50% reduction in processing time.

- Quicker processing times when previewing reports and documents using the native XML driver.

- Increased scalability lets you process reports with larger XML (depending on the complexity of the XML structure).

Because the 2013 and 2016 versions of **SAP Crystal Reports** have reached the end of their life cycles, the **SYSPRO Additional Reporting Software** is dependent on your version of SYSPRO 8:

- Additional Reporting Software 2013 (i.e. SAP Crystal Reports 2013):

  Applies to *SYSPRO 8 2020 R1* and prior versions.

- Additional Reporting Software 2016 (i.e. SAP Crystal Reports 2016):

  Applies to *SYSPRO 8 2020 R2*, *SYSPRO 8 2021 R1* and *SYSPRO 8 2021 R2*.

- Additional Reporting Software 2020 (i.e. SAP Crystal Reports 2020):

  Applies to *SYSPRO 8 2021 R2* and later versions.

Operating System Requirements

Only 64-bit operating systems are supported from *SYSPRO 8 2021 R2* onwards (particularly for the **SYSPRO 8 Reporting Host Service** and **Additional Reporting Software 2020**).

The following indicates the lowest OS supported for *SYSPRO 8 2021 R2* and later releases:

- Windows Server 2012 R2
- Windows Server 2016
- Windows Server 2019
- Windows 8.1
- Windows 10
- Windows 11

SYSPRO Installer Application Enhancements

Version 1.0.0.47

- The **Delete Product Media Files** function of the **Utilities** panel lets you delete previously downloaded media files, such as product and hotfix files.

> 💡 To view an audit trail of all deleted files including date and operator details, access the log file saved to the release or SYSPRO Additional Software folder of your local SYSPRO Deployment folder.
>
> > **FOR EXAMPLE:**
> >
> > File name `DeletedMediaFiles_20201207143907.txt`

Version 1.0.0.49

- You can remove (i.e. delete) a machine assigned to a deployment group. This is useful if you previously configured a VM or test machine for testing purposes and no longer need the machine to be part of the deployment group.

  This functionality is accessible from the **Delete** function of the **Deployment Group Details** screen, which is accessed via the **Edit Deployment Group** screen.

> ⚠️ Removing a machine from a deployment group is permanent and deleted machines can't be recovered by the **SYSPRO Installer Application**. Therefore, we recommend that you create a backup your deployment database before deleting any machines.

- The **Deployment Group Health Check** capability lets you run a health check on the deployment database and installed products to determine the validity of all SYSPRO products installed.

  This functionality is accessible from the **Health Check** function of the **Machine Details** screen, which is accessed via the **Deployment Group Details** screen.

FAQs

The following new FAQs have been added to the SYSPRO Installer Help content:

- **General**
  - Where can I find a log of run time exceptions?
- **Install-related**
  - Can I uninstall SAP Crystal Reports Server 2013 manually?
  - Why is the SELECT button not available against the deployment group?
  - How do I assign Local Security Policy permissions in Windows for the SYSPRO 8 Reporting Host Service?
  - How do I enable the IIS WebSocket Protocol feature?
- **Hotfixes**
  - How do I install a hotfix that is linked to a service update?
- **Upgrading**
  - Can I skip a version when updating to a later release of SYSPRO 8?
- **Firewalls and Proxy Servers**
  - What are the default port numbers for SYSPRO 8 products?

SYSPRO OData

The **SYSPRO OData** feature lets you connect securely to SYSPRO data without direct SQL access and retrieve data for use by third-party applications. It is a future-proof technology that provides a RESTful API to the SYSPRO database and allows OData-compliant applications to query SYSPRO data in a standard and controlled manner.

Although it is available for both on-premise and cloud solutions, **SYSPRO OData** is the only mechanism available when applications need access to SYSPRO data in the **SYSPRO Cloud ERP** environment (the **SYSPRO Cloud ERP** platform doesn't allow direct database access by any application or personnel).

> The *Data Connector - OData* module is currently in BETA status and the connection to **Microsoft SQL Server** is managed manually. The full feature and its functionality is scheduled for release in *SYSPRO 8 2021 R2*.

Accessibility

You can connect to the **SYSPRO OData Service** on an HTTPS endpoint and retrieve live data from the SYSPRO company and system-wide SQL databases (in that SYSPRO instance).

Security

SYSPRO OData is secured via a prerequisite SSL certificate on the endpoint. You can then use your predetermined SQL user credentials to access the underlying SYSPRO SQL table data.

> For **SYSPRO Cloud ERP**, external access is then protected from attack and subject to intrusion detection.

Functionality

You can connect external third-party applications to the **SYSPRO OData Service** for analytics, reporting or triggering requirements. Scalability is supported by best practice guides.

Solution Use

A typical user would connect a product such as **Microsoft Excel** or **Tablaeu** to the **SYSPRO OData** solution, extract data for further analysis or presentation in a visualization tool, and set up schedules to refresh the data.

Simplified Administration

Centralized System Administration

As part of the continuing process to simplify SYSPRO configuration and consolidate the user interface, administrators can now manage the **Company password** and **Prevent logins** functionality from within the **Setup Options** program (*Setup Options > Company > General*).

This functionality was previously located within the **Company Maintenance** program.

SYSPRO Web UI (Avanti) Diagnostics

The **Avanti Event Viewer** (accessible from the ⚙ icon on the **Home** page) logs all events and calls to the system so that support personnel can identify and resolve technical problems that may arise.

The **Support Diagnostics** function (accessible from the ⚙ icon on the **Home** page) can also be used to help resolve issues with grid content not populating. Enabling this function retains grid files in the `\Base\Settings\HTMLUX` folder during the run of *SYSPRO Web UI (Avanti)* for the logged-in user. When exiting *SYSPRO Web UI (Avanti)*, these grid files are removed and the **Support Diagnostics** option automatically switched off.

Document printing using third party application

Administrators can now add multiple printer devices that enables the printing of PDF documents using any third-party application. Depending on the application you choose to install, these third party applications dramatically improve print quality issues experienced when using Type 3 fonts and dot-matrix printers. These applications integrate to **SAP Crystal Reports 2016** (used within SYSPRO) and let you silently print a PDF file with **Adobe Acrobat Reader DC** on your client machine.

Previously, SYSPRO required the underlying associated document information before it could print a PDF document. The file previously used to configure specific printer device names (`UserSrsDocumentPrint.txt`) has been replaced by this new functionality.

Considerations:

- This applies to SRS server-side document printing (i.e. your **REPORTING CONFIGURATION** setup option needs to be configured as **Server-side reporting using SQL**).

- **SAP Crystal Reports 2016** is required to leverage the benefits of this enhancement.

- There are various methods that you can use to print your PDF documents:

  - Print using the preview window

  - A forced print using an installed instance of **Adobe Acrobat Reader DC**

  - Opening the document using the Windows Default Viewer. This doesn't apply to all documents, excluding PDFs which are easily printed using the SYSPRO Reporting Host Service and **SAP Crystal Reports 2016** (client-side printing).

User Experience

Electronic Signatures

The architecture of the **Electronic Signatures** system has been re-engineered to simplify and enhance the user experience of configuring eSignatures in *SYSPRO Web UI (Avanti)*.

The functionality of the legacy **eSignature Setup** program has been split into the following new programs (which are accessible both within the *SYSPRO Desktop* and *SYSPRO Web UI (Avanti)*):

- **Electronic Signature Configuration Setup**

    This program lets you enable the **Electronic Signatures** system and create or maintain your eSignature configuration levels and their associated access control.

- **Electronic Signature Transaction Setup**

    This program lets you configure specific transaction conditions against your eSignature configuration levels.

This assists system administrators who prefer to manage their administrative tasks in *SYSPRO Web UI (Avanti)*, as they can now configure the **Electronic Signatures** system using the web UI.

In addition, new import and export functionality has been introduced within the **Electronic Signature Configuration Setup** program that lets you import and export your eSignature configuration levels from one environment to another.

> The **eSignature Setup** program is still accessible via the CTRL+R command and is fully functional in the SYSPRO core product, however this will be rendered obsolete with a later release of *SYSPRO 8*.

SYSPRO Advanced Browse

The **SYSPRO Advanced Browse** feature consolidates SYSPRO's traditional browse look-ups into a single program, making it easier to administer and customize. The traditional browse look-up programs are typically accessed from the browse icon, or by pressing F9.

> From *SYSPRO 8 2021 R2*, all new programs that require browses default to using the new advanced browse facility which is available for valid key fields on a toolbar, grid or form.
>
> For the traditional browse look-up programs (accessed from the browse icon, or by pressing F9) you will need to enable the ENABLE ADVANCED BROWSE option (*Setup Options > System Setup > System-Wide Personalization*) to take advantage of the new advanced browse features.

Insights & Reporting

SRS Import Report Template

This functionality lets SYSPRO administrators import customized report templates into SYSPRO Reporting Services from any location (i.e. local disk or external hard drive). Previously, this involved a lengthy process of manually copying the relevant report templates in to a specific directory.

Customized report templates are created using the SAP Crystal Reports designer and imported into the SrsReporting table of the system-wide database.

SYSPRO